

IN THE CLAIMS

Please amend claims 41, 45, and 47-48 as indicated below.

Please add new claims 49-62 as indicated below.

1-40. (Canceled).

41. (Currently Amended) A fluid bearing comprising:
a bearing plate having a face surface including an orifice coupled to a plurality of
grooves edged on the face surface to supply fluid; and
a surface restrictor disposed within at least one groove to restrict a ~~on said face~~
~~surface, said surface restrictor for restricting~~ flow of the fluid in the at least one
groove as a pressure of the flow of the fluid increases within the at least one
groove ~~said fluid bearing, said surface restrictor comprising a channel formed~~
~~on said face surface.~~

42. (Original) A fluid bearing as in claim 41 wherein said surface restrictor is etched on
said face surface.

43 -44. (Canceled)

45. (Currently Amended) A method of forming a bearing member for a fluid interface
comprising:
etching a pattern in a bearing plate surface of a bearing plate, said bearing plate surface
providing a surface for said fluid interface and said pattern providing for fluid
flow in said fluid interface; and

forming at least one surface restrictor within the pattern to restrict the fluid flowing within the pattern as a pressure of the flow of the fluid increases within the pattern.

46. (Original) A method as in claim 45 wherein said fluid interface comprises one of a fluid bearing or a vacuum chuck, and wherein said method further comprises bonding said bearing plate to a bearing member.

47. (Currently Amended) A method as in claim 46 wherein bonding the bearing plate to the bearing member ~~said bonding step~~ comprises:

applying an adhesive which is flexible before hardening between a bonding surface of said bearing plate and said bearing member; and
pressing said bearing plate surface against a predetermined surface during at least a portion of a time that said adhesive hardens.

48. (Currently Amended) A method as in claim 45 wherein said pattern comprises an orifice and a plurality of grooves coupled to the orifice to supply the fluid and at least one groove includes a surface restrictor ~~a fluid flow restrictor etched into said bearing plate~~ surface.

49. (New) A fluid bearing as in claim 41, wherein the surface restrictor forms a channel within the at least one groove, the channel of the surface restrictor having a shape different than a shape of the at least one groove.

50. (New) A fluid bearing as in claim 41, wherein the orifice is disposed substantially centrally on the face surface.

51. (New) A fluid bearing as in claim 50, wherein the plurality of grooves comprises four grooves disposed symmetrically coupled to the orifice.

52. (New) A fluid bearing as in claim 41, wherein the orifice has a diameter ranging approximately from 0.001 inches to 0.01 inches.

53. (New) A fluid bearing as in claim 41, wherein at least one of the plurality of grooves has a width of approximately 0.01 inches.

54. (New) A fluid bearing as in claim 41, wherein the surface restrictor of the at least one groove relatively slowly decreases a pressure of air incrementally as the air flows through the at least one groove to distribute the pressure evenly throughout the bearing plate.

55. (New) A fluid bearing as in claim 41, wherein each of the plurality of grooves includes a surface restrictor, and wherein each surface restrictor of each groove has a pattern different than a remainder of the surface restrictors of a remainder of the grooves.

56. (New) A fluid bearing as in claim 41, wherein the bearing plate is used as a part of a vacuum chuck by drawing a vacuum through the orifice via the plurality of grooves, such that

an object placed onto the bearing plate is sucked toward the face surface of the bearing plate, thereby holding the object.

57. (New) A method as in claim 48, wherein the surface restrictor forms a channel within the at least one groove, the channel of the surface restrictor having a shape different than a shape of the at least one groove.

58. (New) A method as in claim 48, wherein the orifice is disposed substantially centrally on the face surface and wherein the plurality of grooves comprises four grooves disposed symmetrically coupled to the orifice.

59. (New) A method as in claim 48, wherein the surface restrictor of the at least one groove relatively slowly decreases a pressure of air incrementally as the air flows through the at least one groove to distribute the pressure evenly throughout the fluid interface.

60. (New) A method as in claim 48, wherein each of the plurality of grooves includes a surface restrictor, and wherein each surface restrictor of each groove has a pattern different than a remainder of the surface restrictors of a remainder of the grooves.

61. (New) A fluid bearing, comprising:
a bearing plate having a face surface including an orifice disposed substantially centrally on the bearing plate and coupled to a plurality of grooves edged on the face surface to supply fluid, wherein the plurality of grooves is symmetrically disposed with respect to the orifice; and

a surface restrictor disposed within each groove to restrict a flow of the fluid in the at least one groove as a pressure of the flow of the fluid increases within the at least one groove.

62. (New) A fluid bearing as in claim 61, wherein the bearing plat has a substantially round shape, wherein each of the plurality of grooves includes a straight portion extended from the orifice toward to an outer edge of the bearing plate and a curve portion substantially in parallel with the outer edge of the bearing plate, and wherein the straight portion includes a surface restrictor therein forming a channel having a shape other than a straight shape.